

WHAT IS CLAIMED IS:

- 1 1. A method of processing image data representing at
2 least one image, the method comprising:
3 receiving information including at least one of
4 image quality information and image use information;
5 selecting a first encoding format from a
6 plurality of supported encoding formats as a function of
7 said received information;
8 encoding said image data according to the first
9 encoding format to thereby generate first encoded image
10 data representing said image; and
11 storing the first encoded image data using a
12 digital data storage device.
- 1 2. The method of claim 1, wherein the image quality
2 information indicates a desired minimum level of image
3 quality at which an image is to be preserved.
- 1 3. The method of claim 2, wherein the step of selecting
2 the first encoding format includes selecting the first
3 encoding format to be an encoding format which will
4 preserve the image at a level of quality at least as good
5 as the indicated minimum level of image quality.
- 1 4. The method of claim 1, wherein the image quality
2 information indicates the quality of the at least one image
3 represented by said image data.

1 5. The method of claim 4, wherein the step of selecting
2 the first encoding format includes selecting the first
3 encoding format to be an encoding format which will
4 preserve the image at a level of quality equal to or lower
5 than the indicated quality of the at least one image
6 represented by said image data.

1 6. The method of claim 4, further comprising:
2 analyzing said image data to generate image
3 quality information received in said step of receiving
4 information.

1 7. The method of claim 1, further comprising:
2 querying a human for said image quality
3 information.

1 8. The method of claim 1, wherein the received
2 information further includes data storage limitation
3 information; and
4 wherein the step of selecting a first encoding
5 format is further performed as a function of the received
6 data storage limitation information.

1 9. The method of claim 1, wherein the received
2 information further includes image source information which
3 indicates a format in which the at least one image
4 represented by said image data was previously stored; and
5 wherein the step of selecting a first encoding
6 format is further performed as a function of the received
7 image source information.

1 10. The method of claim 1, wherein the received
2 information further includes image source information which
3 indicates a type of data storage media which was previously
4 used to store said image data prior to performing said
5 encoding step; and

6 wherein the step of selecting a first encoding
7 format is further performed as a function of the data
8 storage media information.

1 11. The method of claim 10, wherein the indicated type of
2 data storage media includes at least one of digital tape,
3 analog tape and movie film.

1 12. The method of claim 1, further comprising the step of:
2 selecting the quality level at which the at least
3 one image represented by said image data is to be encoded
4 using the selected image format based on the received
5 information.

1 13. The method of claim 12, wherein the quality level is
2 selected from a plurality of supported encoding quality
3 levels.

1 14. The method of claim 13, wherein the plurality of
2 supported encoding quality levels include a first quality
3 level which is a lossless or near loss-less quality level;
4 a second quality level which is a contribution quality
5 level; and a third quality level which is a distribution
6 quality level, the distribution quality level being the
7 level of image quality to be used for distribution of the
8 image to an end viewer.

1 15. The method of claim 13, wherein the received
2 information further includes data storage limitation
3 information; and

4 wherein the step of selecting the quality level
5 at which the at least one image is encoded is further
6 performed as a function of the received data storage
7 limitation information.

1 16. The method of claim 13, wherein the received
2 information further includes image source information which
3 indicates a format in which the at least one image was
4 previously stored; and

5 wherein the step of selecting the quality level
6 at which the at least one image is encoded is further
7 performed as a function of the received image source
8 information.

1 17. The method of claim 14, wherein the received
2 information further includes image source information which
3 indicates a type of data storage media which was previously
4 used to store said image prior to performing said encoding;
5 and

6 wherein the step of selecting the quality level
7 at which the at least one image is encoded is further
8 performed as a function of the received image source
9 limitation information.

1 18. The method of claim 1, wherein said plurality of image
2 formats includes at least two of the encoding formats in
3 the set of MPEG, JPEG and DV encoding formats.

1 24. The method of claim 22, wherein the step of converting
2 the first encoded image data from the first encoding format
3 to a second encoding format includes:

4 decoding said first encoded image data to
5 generate decoded image data; and
6 re-encoding said decoded image data according to
7 the second encoding format.

1 25. A digital storage medium comprising computer
2 executable instructions for controlling a computer system
3 to:

4 receive information including at least one of
5 image quality information and image use information;
6 select a first encoding format from a plurality
7 of supported encoding formats as a function of said
8 received information;
9 encode image data according to the first encoding
10 format to thereby generate first encoded image data
11 representing said image; and
12 store the first encoded image data using a
13 digital data storage device.

1 26. A system for processing and storing at least one of
2 audio and video data, the system comprising:

3 a compression module supporting a plurality of
4 different encoding formats, the compression module
5 including a plurality of encoding modules, each encoding
6 module capable of performing data encoding according to a
7 different standardized encoding format;
8 a control module for selecting from the plurality
9 of encoding formats, an encoding format to be used with a
10 given set of data supplied to the compression module; and

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11 a data storage device coupled to the compression
12 module for storing encoded data generated by said
13 compression module.

1 27. The system of claim 26, further comprising:

2 a data retrieval module for retrieving encoded
3 data stored in the data storage device; and

4 a transcoder module for converting encoded data
5 retrieved from the data storage device from a format in
6 which the data was stored to a different data format.

1 28. The system of claim 26, wherein the transcoder module
2 includes:

3 a plurality of decoders, each decoder in the
4 plurality of decoder circuits being capable of decoding at
5 least one of said encoding formats supported by the
6 compression module.

1 29. The system of claim 27, wherein the transcoder module
2 further includes:

3 a plurality of encoders coupled to the plurality
4 of decoder, the plurality of encoders including encoders
5 which support different encoding formats.

1 30. The system of claim 28, wherein the transcoder module
2 further includes:

3 means for outputting data generated by multiple
4 encoders included in said plurality of encoders, from the
5 same decoded data generated by one of said plurality of
6 decoders.

31. The system of claim 27, further comprising:

- an analysis module capable of performing an indexing operation on encoded data and generating index information therefrom; and
- a wrapper module coupled to said compression module, the storage device and the analysis module, the wrapper module supplying encoded data generated by said compression module to said analysis module and incorporating index information received from said analysis module into a file with the encoded data supplied to said analysis module.

32. The system of claim 31, wherein the data analysis module includes:

- decoder circuitry for decoding encoded data; and
- an indexing circuit for generating indexing information by analyzing decoded data generated by said decoder circuitry.

33. The system of claim 31, wherein said data retrieval module is coupled to said storage device and the analysis module, the data retrieval module controlling the retrieval of encoded data from the storage device to be supplied to the analysis module for indexing; and

wherein the analysis module indexes retrieved encoded data to generate index information.

1 34. The system of claim 33, further comprising:
2 an archive storage manager module for coupling
3 the data retrieval module to the analysis module and for
4 adding index information generated by said analysis module

5 from processing retrieved encoded data to the file from
6 which the encoded data was retrieved.

1 35. The system of claim 27, further comprising:
2 a preview module coupled to said transcoder for
3 displaying images generated from encoded data produced by
4 said transcoder.

1 36. The system of claim 28, further comprising:
2 a preview module coupled to said compression
3 module for displaying images generated from encoded data
4 generated by said compression module.

1 37. The system of claim 26, further comprising:
2 means for receiving information including at
3 least one of image quality information and image use
4 information; and
5 wherein the control module includes:
6 means for selecting the encoding format
7 to be used with a given set of data supplied to
8 the compression module as a function of said
9 received information.

1 38. A method of operating a system to process image data
2 representing an image, the method comprising:
3 receiving image source information indicating at
4 least one of a type of storage media previously used to
5 store the image data and a storage format in which the
6 image data was stored;

10 operating the system to encode said image data
11 according to the first encoding format to thereby generate
12 first encoded image data representing said image; and
13 storing the first encoded image data using a
14 digital data storage device.

1 40. The method of claim 38, wherein the received image
2 source information indicates the source format to be one of
3 a JPEG, a DV and an MPEG format.

5 converting the first encoded image data from the
6 first encoding format to a second encoding format to
7 produce second encoded image data, the second encoded
8 format being different from the first encoding format; and
9 outputting the second encoded image data.

1 42. The method of claim 41, further comprising:
2 converting the first encoded image data from the
3 first encoding format to a third encoding format to produce

4 third encoded image data, the third encoded format being
5 different from the first and second encoding formats; and
6 outputting the third encoded image data.

1 43. A method of processing image data representing an
2 image, the method comprising:
3 receiving image quality information;
4 selecting an encoding quality level from a
5 plurality of supported encoding quality levels as a
6 function of the received image quality information;
7 encoding said image data to the selected quality
8 level according to a first encoding format to thereby
9 generate first encoded image data representing said image;
10 and
11 storing the first encoded image data using a
12 digital data storage device.

1 44. The method of claim 43, wherein the image quality
2 information indicates a desired minimum level of image
3 quality at which an image is to be preserved.

1 45. The method of claim 44, wherein the step of selecting
2 the encoding quality level includes selecting an encoding
3 quality level which will preserve the image at a level of
4 quality at least as good as the indicated minimum level of
5 image quality.

1 46. The method of claim 43, wherein the image quality
2 information indicates the quality of the image represented
3 by said image data.

1 47. The method of claim 46, further comprising:
2 analyzing said image data to generate the
3 received image quality information.

1 48. The method of claim 46, wherein the step of selecting
2 the encoding quality level includes selecting an encoding
3 quality level which will preserve the image at a level of
4 quality equal to or lower than the indicated quality of the
5 image represented by said image data.

1 49. The method of claim 46, wherein the image quality
2 information further indicates a minimum level of image
3 quality at which an image is to be preserved; and
4 wherein the step of selecting the encoding
5 quality level includes selecting an encoding quality level
6 which will preserve the image at a level of quality lower
7 than the indicated quality of the image represented by said
8 image data but at least as high as the minimum level of
9 image quality at which the image is to be preserved.

1 50. The method of claim 49, further comprising:
2 querying a human for said image quality
3 information.

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